A SAMPLE SURVEY: PARENTAL VIEWS ON ROUTINE CHILDHOOD VACCINATION, THE FLU AND COVID VACCINES DURING THE PANDEMIC

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Background Fewer routine childhood vaccinations have been given during the COVID-19 pandemic compared with January to April 2019. The COVID vaccination programme has brought into light a massive wave of concern internationally about vaccination hesitancy thus risking global public health strategies. Are more parents choosing not to access childhood immunisations because of concerns about attending clinical settings, or are they questioning the principles of vaccination in general?

Objectives To improve local routine childhood vaccination rates by identifying parental barriers behind vaccination hesitancy. To share this learning with local child health professionals who support families with decision making around childhood vaccination.

Methods A sample survey was performed in the children’s outpatient department at St Mary’s hospital on 26th & 27th November 2020. It involved a 5-minute open-question discussion with parents regarding their views on routine childhood vaccination, the flu and COVID vaccines. Confidentiality and anonymity were maintained during data collection and analysis. All data was gathered by a single paediatric junior doctor to minimize collection bias. The results were shared with the local child health integrated care team (Connecting Care for Children) at the weekly multi-professional meeting.

Results 27 families were approached. All parents agreed to participate. All children were up to date with their immunisations. Most common parental comments in favour of routine vaccinations included the ‘protection of my child from serious illnesses’, ‘protection of others who cannot be vaccinated’, and ‘following the national paediatric guidelines’.

23 out of 27 children were eligible for flu vaccination with only 35% (8 out of 23) having received it. Up to 30% of parents in the unvaccinated children group said that the flu vaccine ‘was not necessary’, with 22% supporting that they ‘weren’t offered’ or ‘weren’t aware’ their children could have it.

30% of parents were in favour of the COVID vaccine and said they have ‘trust in science’, it is ‘the only way to come back to a normal life’, and that ‘the risk of having it outweighs the risk of not having it’. Those who were negative (44%) or undecided (26%) said that this vaccine is ‘too new to be trusted’, there are ‘unknown long term side effects’, it’s ‘not tested on all age groups’, and ‘there are unknown ingredients’. Parents in the negative/undecided group said that only time could change their mind. Also, if they were to have another baby they would now think twice before vaccinating their child with the routine immunisations.

Conclusions This sample survey has revealed diverse parental views regarding vaccination. Worryingly our results indicate that the arrival of the COVID vaccine has made some parents more reluctant to access routine childhood vaccines. Sharing our results locally has supported child health professionals to address these concerns with families when discussing vaccination. We recommend conducting this survey across other Trusts to assess whether this trend reflects the majority of the population and can be used to address vaccination hesitancy on a national scale.

REFERENCE
events and reactions following blood transfusion since 1996. These include reports of transfusion-related deaths and major morbidity.

**Objectives** Where systematic risks and issues are identified, SHOT produces recommendations to improve patient safety.

**Methods** SHOT publishes an Annual Report; since 2008 this has included a paediatric chapter, analysing reports from those aged < 18 years and deriving key lessons for paediatric practice.

**Results** In the 2019 Annual SHOT Report (SHOT, 2020), 7.1% (132/1867) cases were in infants and children, in line with previous years. There was one possible transfusion-related paediatric death: a neonate with transfusion-associated necrotising enterocolitis. The 14 cases of major morbidity were nearly all (12) the result of febrile, allergic and hypotensive reactions (FAHR). For paediatrics, platelet reactions predominated for FAHR, often severe allergic. Almost two thirds (86/132) paediatric reports were error-related rather than reactions, similar for SHOT as a whole. Common themes for transfusion errors remain consistent over time. Paediatrics continue to be particularly over-represented in several subcategories, particularly in ‘under’ and ‘over-transfusion’, with 31.4% (11/35) of total reports to SHOT in 2019. Neonates are disproportionately represented in the ‘incorrect blood component transfused’ category. As for many years there were no neonatal FAHR reports, either due to reduced reaction rates or lack of recognition.

**Conclusions** Key themes emerging from the reports submitted to SHOT and actions needed to improve transfusion safety include:

- Paediatric teams should have access to local paediatric transfusion guidelines.
- Errors in calculation of blood transfusion volumes and prescribing specific requirements (eg irradiation). Induction training of paediatric staff should include specific requirements and weight-based prescribing.
- Gaps in staff knowledge regarding significance of test results and interpretation. Unexpected results should be challenged or repeated to avoid acting on erroneous results. Staff must understand the significance of abnormal coagulation in children and when to seek specialist advice.
- Communication gaps between clinical teams and transfusion laboratories – good communication is vital for patient safety. This is especially important in patients undergoing haemopoietic stem cell transplant as transfusion requirements can be complex.
- Acute transfusion reactions in children can take place in a variety of clinical settings. Paediatricians and neonatologists should be able to recognise these and initiate appropriate management.
- Staff should be aware of recent changes to blood components: following the Advisory Committee on the Safety of Blood, Tissues and Organs (SaBTO) review (2019), recipients born after 1995 can now receive UK plasma (non-pathogen inactivated); children can receive either apheresis or pooled platelets.

**Several useful resources are available** British Society for Haematology (BSH) guidelines (https://bs-h.org.uk)/‘Blood Components’ mobile application (NHS 2018); SHOT educational materials (https://www.shotuk.org/). The SHOT paediatric video presents key educational messages from the last 10 years of paediatric SHOT reports (https://www.shotuk.org/resources/current-resources/videos/).

Paediatric haemovigilance is not just collecting data - it must contribute to improved patient safety. It is the responsibility of all health care professionals transfusing patients to ensure that the key learning points are incorporated into clinical practice.

**British Paediatric Allergy Immunity and Infection Group**

**989 ORIENTIA TSUTSUGAMUSHI: AN EMERGING MAJOR CAUSE OF ACUTE ENCEPHALITIS SYNDROME IN SOUTH ASIAN CHILDREN**

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10.1136/archdischild-2021-rcpch.323

**Background** Acute Encephalitis Syndrome (AES) is a major seasonal public health problem in several states of India. The National Vector-borne Disease Control Program (NVBDCP, India) reported >75,000 cases of AES in India during 2014–2020 along with 6,912 deaths due to AES. Burden and mortality of AES cases continues to be high, and definitive etiologies for the illness have yet to be identified.

**Objectives** The study was undertaken to identify the specific etiology of AES among children in a tertiary care hospital in India and to determine the contribution of Orientia tsutsugamushi, the agent of scrub typhus, as a cause of AES.

**Methods** This hospital-based observational study was conducted over a 18-month period (1st July, 2019 to 31st December, 2020) among children between 1 month to 12 years of age. Cerebro-spinal fluid and/or serum samples were collected from a total of 552 consecutive hospitalized patients of AES and tested for various pathogens by Gram stain, culture and antibody testing by ELISA.

**Results** Out of 552 enrolled patients, 251 (45.5%) were positive for at least one pathogen and 3 were co-positive for more than one pathogen. Maximum number of samples were positive for Scrub typhus IgM (24.6%, n=136). 10.5% of AES cases were due to pyogenic meningitis. Positivity for M. tuberculosis, HSV-1, Dengue virus and Mumps virus was found in 2.9%, 2.17%, 1.45% and 1.1% cases respectively. Occasional presence of Japanese encephalitis B virus, Varicella zoster virus, Corynebacterium diphtheriae and Salmonella typhi was also noted. Neuro-imaging and antibody testing were suggestive of acute disseminated encephalomyelitis in 9 (1.6%) and autoimmune encephalitis in 2 patients.

The main clinical features of the 136 scrub typhus positive patients were fever(100%), altered sensorium(100%), headache (61.7%), seizures (51.5%), nausea(32.35%), neck rigidity (7.35%), limb weakness(6.6%) and cranial nerve palsy(4.4%). Eschar could be located in only 12.5% patients. Case fatality rate was 2.9%.

**Conclusions** Our findings suggest emergence of Orientia tsutsugamushi as a notable causative agent of AES in this South Asian country. Similar results were obtained in several other...